Work Order ID 108717

October-29-13 9:51:57 AM

108717

Item ID: 647.9313
Revision ID:
Item Name: Bracket

Start Date: 10/29/13 **Start Qty:** 4.00 *4*
Required Date: 10/29/13 **Req'd Qty:** 4.00 *4*
Reference:

Accept *N900040100*

Setup Start *NS1*
Stop *NS2*

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** MLS **Date:** 13-11-01
QC: **Date:**
Tooling: **Date:**
SPC (Y/N): **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr: 647.9300	Revision Nbr: n/c								
100		0.00							
100		0.00				4	0		13-11-08
Bandsaw	**Memo**								
Jeaspa Bandsaw	CUT AT 4.0" LONG								
110		0.00							
110		0.00				CL	13/12/09		(1)
Outsource5	**Memo**								
Outsource process - Machining	ISSUE P/0: 22325 POSSIBLE SUPPLIER:ARCHER PRECISION Certificate of conformaty required								
115	Receive & Inspect for Damage & Mat'l Certs	0.00							
115		0.00				R	14/01/5		(4)
Packaging	**Memo**								
Packaging									

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____

Work Order ID 108717

October-29-13 9:51:57 AM

108717

Item ID: 647.9313
Revision ID:
Item Name: Bracket

Start Date: 10/29/13 **Start Qty:** 4.00 *4*
Required Date: 10/29/13 **Req'd Qty:** 4.00 *4*
Reference:

Accept *N900040100*

Setup Start *NS1*
Stop *NS2*

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
117	QC6- Inspect dimensions to drawing	0.00				4			
117 QC Quality Control	**Memo**	0.00 14/3/S							
118		0.00				CL 14/03/10			
118 HandFinish Hand Finishing	**Memo** REMOVE ALL PART MARKINGS	0.00 N/A							
120	Outsource process-Anodize per QSI017 4.1.10.1	0.00				CL 14/03/10 4			
120 Outsource4 Outsource process - Anodize	**Memo** Issue P/O to ATG : 23281 1- Black Anodize as per Dwg 647.9300 2- PRIME AS PER DWG, SEE NOTE #2 Certification of Comformity is required	0.00							

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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- ☐ Cuffs
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- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

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- ☐ Burrs
- ☐ Contamination
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- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____

Work Order ID 108717

October-29-13 9:51:57 AM

108717

Item ID: 647.9313
Revision ID:
Item Name: Bracket
Start Date: 10/29/13 **Start Qty:** 4.00 *4*
Required Date: 10/29/13 **Req'd Qty:** 4.00 *4*
Reference:

Accept *N900040100* Setup Start *NS1*
Stop *NS2*

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____
QC: _____ **Date:** _____

Tooling: _____ **Date:** _____
SPC (Y/N): _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Packaging Packaging	Receive & Inspect for Damage & Mat'l Certs **Memo**	0.00 0.00				4X	SP 14-3-21		
140 *140* QC Quality Control	QC5- Inspect part completeness to step on W/O **Memo**	0.00 0.00				4			
170 *170* Packaging Packaging	Identify as per dwg & Stock Location: STH16 **Memo** Identify as per MPP-120	0.00 0.00				4X	DAS 28 9-89 14-03-21		

DAS 27 9-89 14/3/21

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Crosstube ☐
- Water Jet ☐
- Engineering ☐
- Machining ☐
- Small Fab ☐
- Prod. Eng. Coor. ☐
- Quality ☐
- Thermoforming ☐
- Finishing ☐
- Rec/Store/Packaging ☐
- Other ☐
- Large Fab ☐
- Composite ☐
- Supplier ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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- ☐ Turning Sequence
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- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 108717

October-29-13 9:51:57 AM

108717

Item ID: 647.9313
Revision ID:
Item Name: Bracket

Start Date: 10/29/13 **Start Qty:** 4.00 *4*
Required Date: 10/29/13 **Req'd Qty:** 4.00 *4*
Reference:

Accept *N900040100*

Setup Start *NS1*
Stop *NS2*

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____
QC: _____ **Date:** _____

Tooling: _____ **Date:** _____
SPC (Y/N): _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.00							
Quality Control									

MLJ 14-03-24

MLJ 14-03-24

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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- ☐ Cuffs
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- ☐ Part Incorrect
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- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Picklist Print

October-29-13 9:51:56 AM

Work Order ID: 108717

Parent Item: 647.9313

Parent Item Name: Bracket

Start Date: 10/29/13 **Required Date:** 10/29/13

Start Qty: 4.00 **Required Qty:** 4.00

Comments: IPP REV:A NEW ISSUE 12-11-19 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
647.9313P Bracket		Purchased	No				Each	0.0000		4	4	12/4/13	(4)
M7075T6B1.750X04.500 7075-T6 BAR 1.750" X 4.500"		Purchased	No				f	27.5280	1.3136844	1.417		13-11-08	

Location	Loc Qty	Loc Code
MAT049	27.528	
124383	3.408	
124633	0.04	
m126981	24.08	

1.417'

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric to O/S
☐ Cracks
☐ Crushed/Crimped
☐ Cuffs
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Ripples in Bend
☐ Torque Waves in Extrusion
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damaged
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drill Holes
☐ Drawing
☐ Finish
☐ Folio

☐ Grain
☐ Hardware
☐ Inspection Incomplete
☐ Instructions Incomplete/Unclear
☐ Maintenance
☐ Mislabeled
☐ Misread
☐ Offset
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions

☐ Ovalized
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

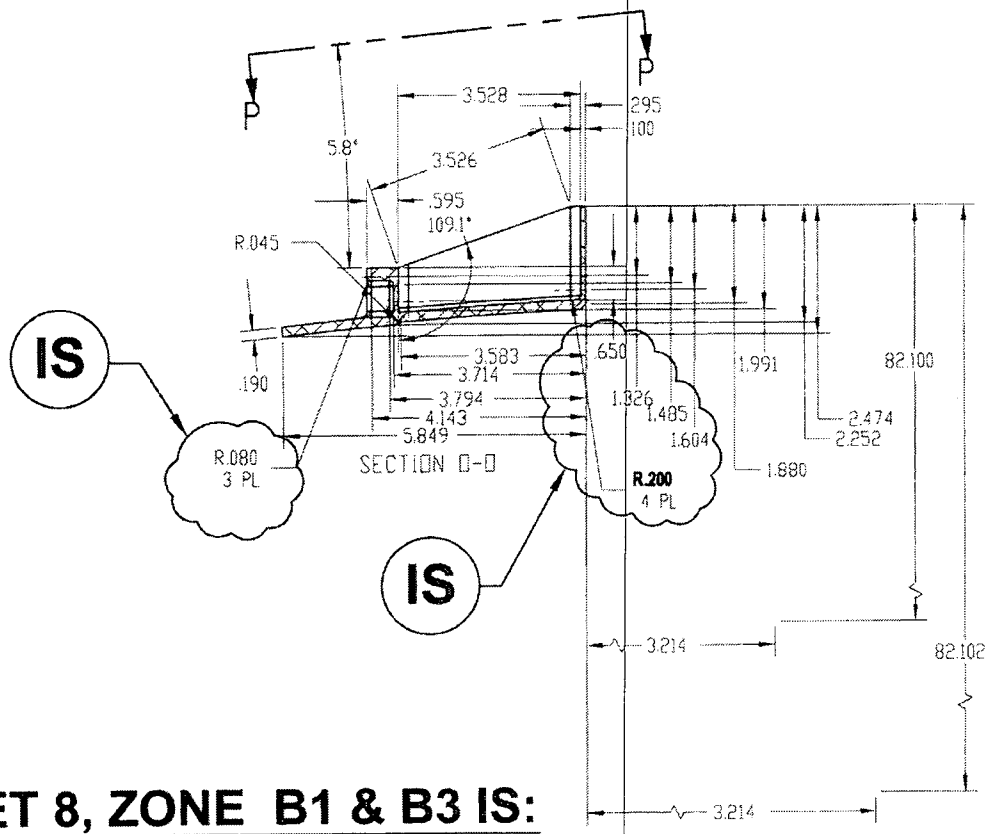
☐ Pressure/Forced
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other _____

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03706				SHEET 1 OF 2
	DWG NO. 647.9300	REV: N/C	PREPARED BY B. PETERS	DATE: 11/16/12	EFFECT ON DWG ☐ INC. ☒ UNINC.
	DWG TITLE: BRACKETS				
	APPROVED BY: ENGR	MFG	QC		EFF: NEXT ORDER
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVISED RADII ON 647.9315.			ECR: D-12-012	

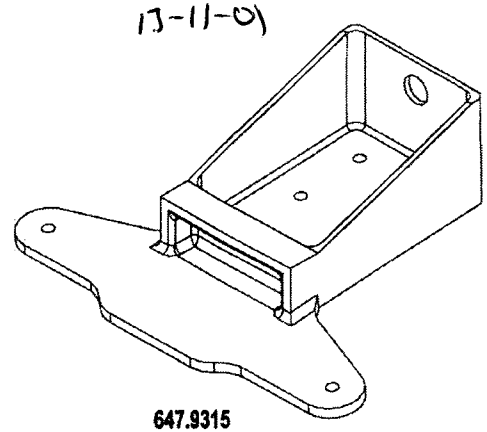
SHEET 1, ZONE B4, NOTE 10 IS:

10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRT, LAST MODIFIED 11-16-12.



SHEET 8, ZONE B1 & B3 IS:

108717 MCS
13-11-01

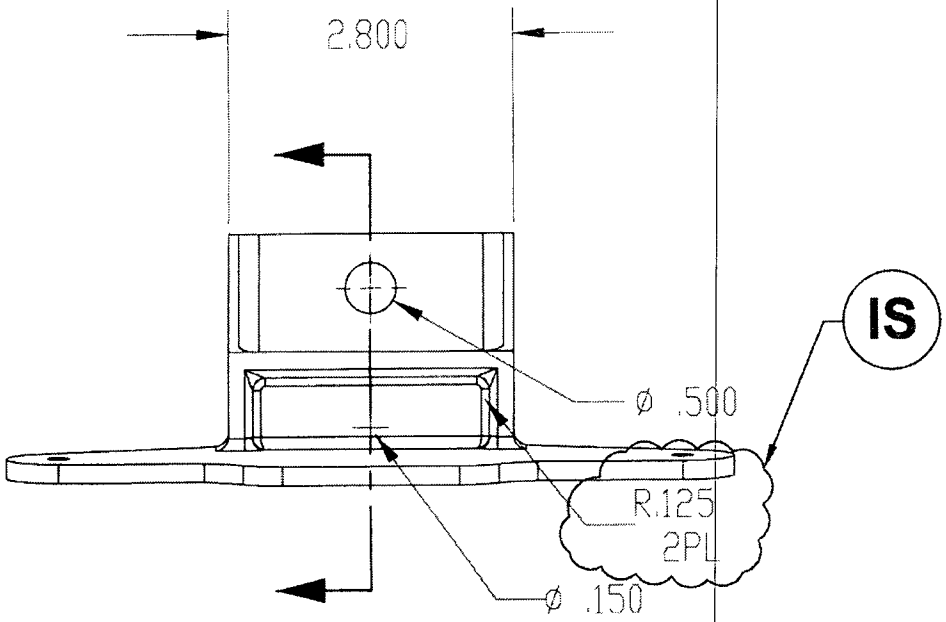


SHEET 8, ZONE A7 IS:

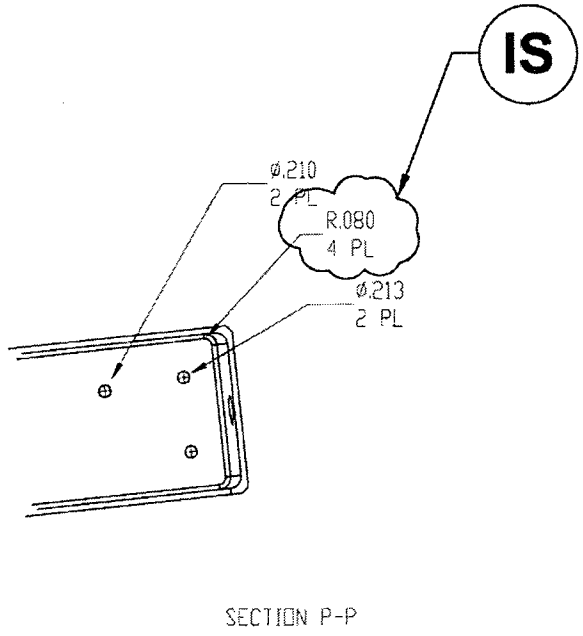
DOCUMENTS EFFECTED: ☐ RFMS ☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM	CHANGE CATEGORY ☐ MAJOR ☒ MINOR	DER REVIEW REQUIRED ☐ YES ☒ NO

10871?

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE ORDER NO. 03706	SHEET 2 OF 2



SHEET 8, ZONE B6 IS:



SHEET 8, ZONE B8 IS:

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION

108717

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03209			SHEET 1 OF 2	
	DWG NO. 647.9300	REV: N/C	PREPARED BY A. QUAN	DATE: 11/09/11	EFFECT ON DWG ☐ INC. ☒ UNINC.
	DWG TITLE: BRACKET				
	APPROVED BY: ENGR	MFG David Barbee	QC Manuel Lopez	EFF: CURRENT ORDER AND STOCK	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVISED HOLE LOCATIONS ON 647.9314, ADDED HOLE 647.9315				

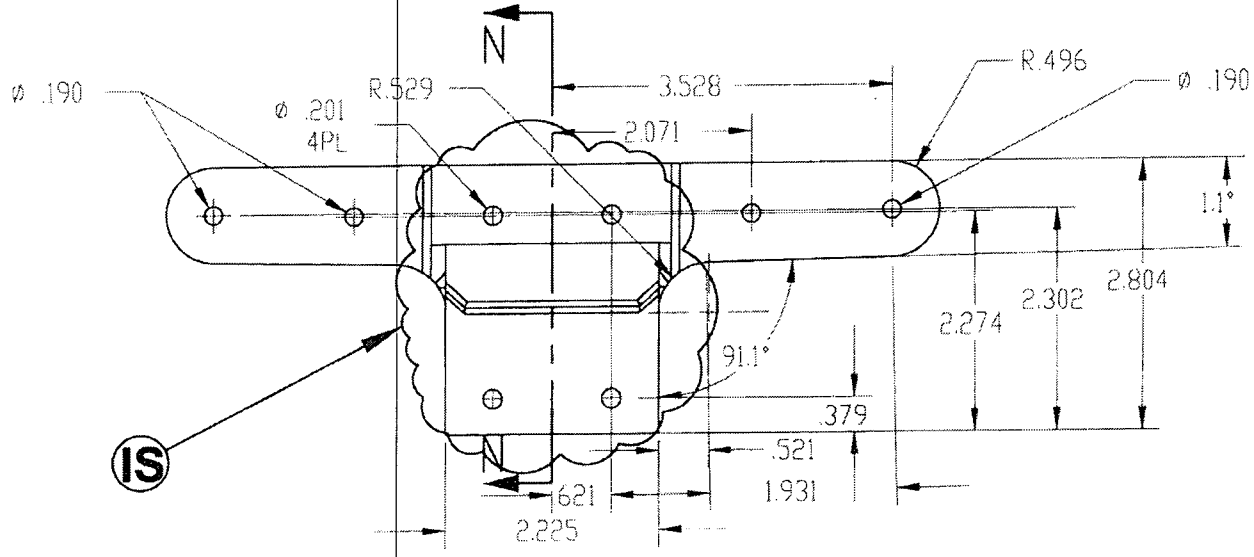
SHEET 1, ZONE B3:

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK. PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J TYPE I, CLASS N.
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120 LASER ENGRAVE CENTURY GOTHIC, 12 POINT P/N AND REVISION
5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9310 LH BRACKET.SLDPRT, LAST MODIFIED 06-22-10
6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPRT, LAST MODIFIED 06-22-10
7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET.SLDPRT, LAST MODIFIED 06-22-10
8. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9313 BRACKET.SLDPRT, LAST MODIFIED 06-22-10
9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9314 RETAINER BRACKET.SLDPRT, LAST MODIFIED 09-26-11
10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRT, LAST MODIFIED 10-19-11
11. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9316 CROSSBAR BRACKET.SLDPRT, LAST MODIFIED 06-22-10
12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET.SLDPRT, LAST MODIFIED 06-22-10

IS

SHEET 7, ZONE B4:



F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION

DOCUMENTS EFFECTED: ☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM

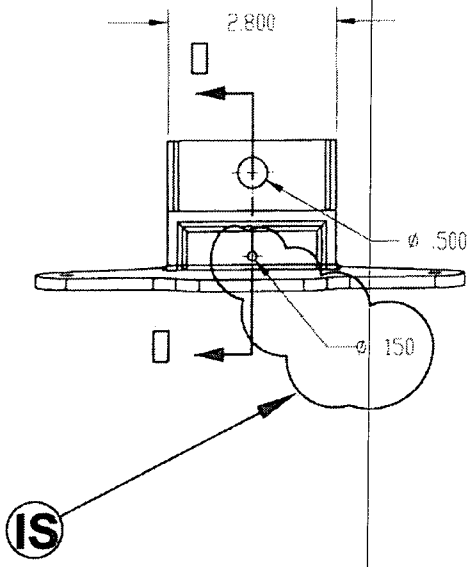
CHANGE CATEGORY ☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED ☐ YES ☒ NO

108717

APICAL I. JSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03209	SHEET 2 OF 2

SHEET 8, ZONE B5:



F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION

108717

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE RELEASE PR1		
N/C	INITIAL RELEASE	06-30-10	P. BRAVO

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK; PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J TYPE I, CLASS N.
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120. LASER ENGRAVE CENTURY GOTHIC, 12 POINT P/N AND REVISION.
5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9310 LH BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
8. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9313 BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9314 RETAINER BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
11. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9316 CROSSBAR BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET.SLDPRT, LAST MODIFIED 06-22-10.

UNINCORPORATED ECN(s)

03209, 03706

		647.9317	RH BRACKET	1	2, 12
		647.9316	CROSSBAR BRACKET	1	2, 11
		647.9315	RECEPTACLE BRACKET	1	2, 10
		647.9314	RETAINER BRACKET	1	2, 9
		647.9313	BRACKET	1	2, 8
		647.9312	BRACKET	1	2, 7
		647.9311	SUPPORT BRACKET	1	2, 6
		647.9310	LH BRACKET	1	2, 5
	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.

QTY — PARTS LIST

NEXT ASSY (S): 647.8900

ORIGINAL DATE: 06-01-10
DRAWN BY: R. ROMERO
CHECKED: P. BRAVO
DRAWING APPROVAL: P. BRAVO 06-30-10
CONFIDENTIAL

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES. TOLERANCES ARE: 2 PLACE DECIMALS ± .01; 3 PLACE DECIMALS ± .010; ANGLES ± .5°

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300

BRACKETS

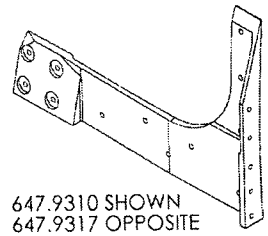
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B	07M26	647.9300	N/C

SCALE: NONE — SHEET 1 OF 6

108717

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



647.9310 SHOWN
647.9317 OPPOSITE

ORIGINAL DATE		
MACHINE VER	08-01-10	
DRAWN BY	CHECKED	
S. ROANO	B. MAYO	
DRAWING APPROVAL		
(E. MAYO)		
DATE		
COMPANY NO		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE
1 PLACE DECIMALS ± .01
2 PLACE DECIMALS ± .005
3 PLACE DECIMALS ± .001
ANGLES ± .5°

APICAL INDUSTRIES

2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

BRACKETS

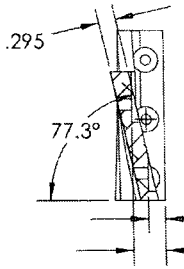
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SCALE NONE | SHEET 2 OF 9

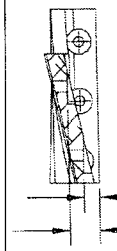
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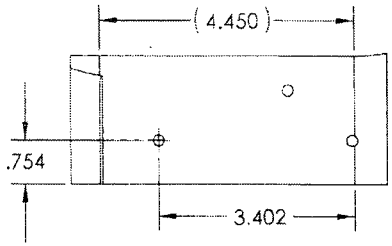
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



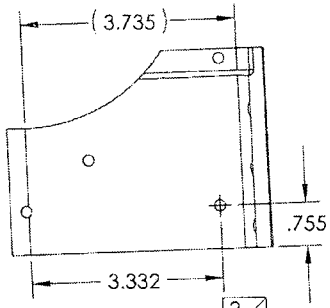
SECTION A-A 2/C3



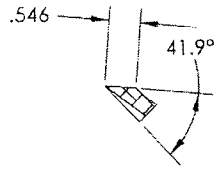
SECTION B-B 2/C2



SECTION C-C 2/A3



SECTION D-D 2/A4



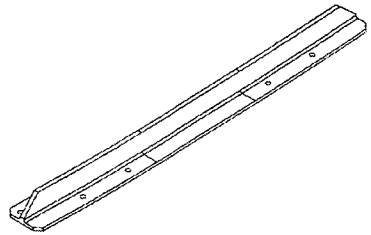
SECTION E-E 2/C2

ORIGINAL DATE (MO/DA/YR) 08-03-10		APICAL INDUSTRIES	
DRAWN BY P. ROSARIO	CHECKED P. BRAVO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
ENGINEER APPROVAL (IF REQUIRED)		BRACKETS	
MFG APPROVAL (IF REQUIRED)			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE 2 PLACE DECIMALS ± 0.1 3 PLACE DECIMALS ± 0.001 ANGLES ± 2°		SIZE B	CAGE CODE 07M26
		DWG NO 647.9300	REV N/C
		SCALE NONE	SHEET 3 OF 9

108717

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



647.9311

Ø.201 THRU
10 PL

5/B4 G

.406

1.244

.386

.25X45° CHAM.
4 PL

H

G

H 5/C4

1.328

2.500

.185

R.085 TYP.

.125

.875

1.650

SECTION F-F

R142.059

F

F

42.6°

5.875

5.875

10.875

10.875

16.750

142.062

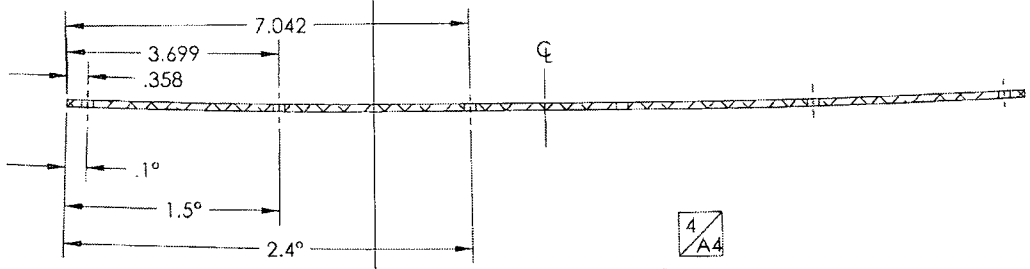
142.062

ORIGINAL DATE: 04-01-10			
DRAWN BY: R. ROSARIO	CHECKED: P. BRAVO	APICAL INDUSTRIES	
DRAWING APPROVAL: P. BRAVO 04-30-10		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA., 92056-3512 (760)724-5300	
CONTRACT NO:		BRACKETS	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE: 2 PLACE DECIMALS ±.03; 3 PLACE DECIMALS ±.010; ANGLES ± .5°		SIZE: B	CAGE CODE: 07M26
		DWG. NO: 647.9300	REV: N/C
		SCALE: NONE	SHEET 4 OF 9

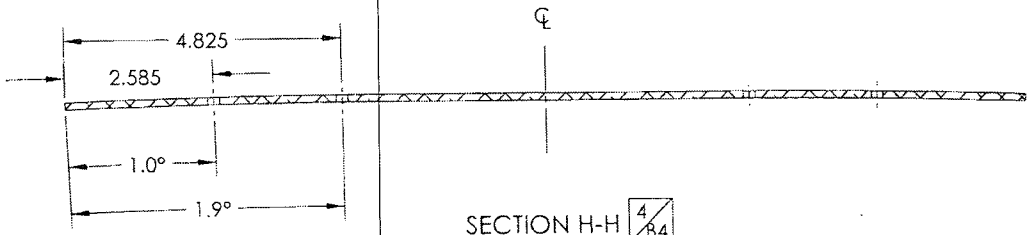
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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



SECTION G-G (4/A4)



SECTION H-H (4/B4)

ORIGINAL DATE	
MOD DATE(S)	06-01-10
DRAWN BY	CHECKED
R ROMERO	P BRAVO
DRAWING APPROVAL	
P BRAVO	
2010-10	
CONTRACT NO.	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
2 PLACE DECIMALS ± .01
3 PLACE DECIMALS ± .005
ANGLES ± 1°

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

BRACKETS

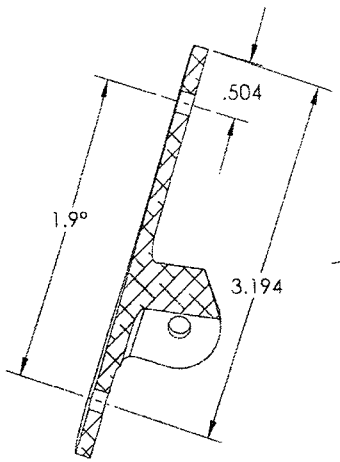
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B	07M76	647.9300	N/C

SCALE NONE | SHEET 5 OF 9

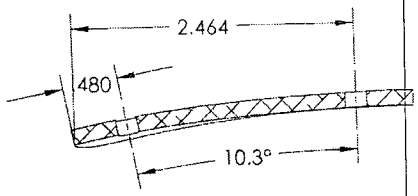
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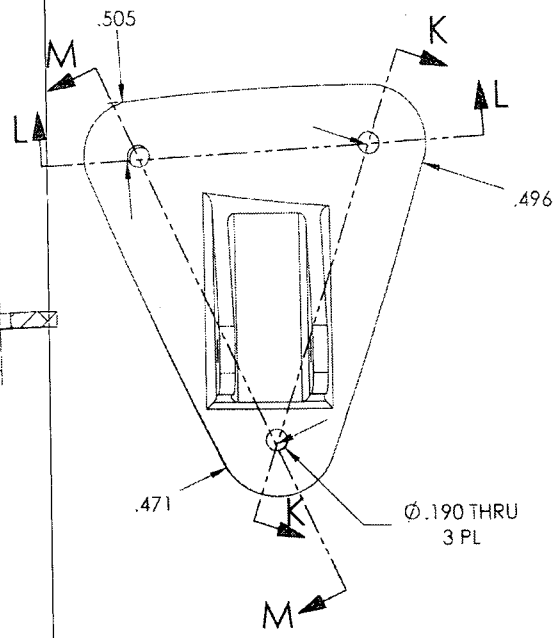
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REV	DESCRIPTION	DATE	APPROVED

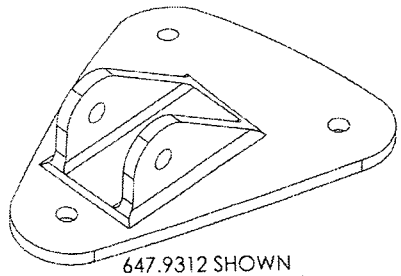


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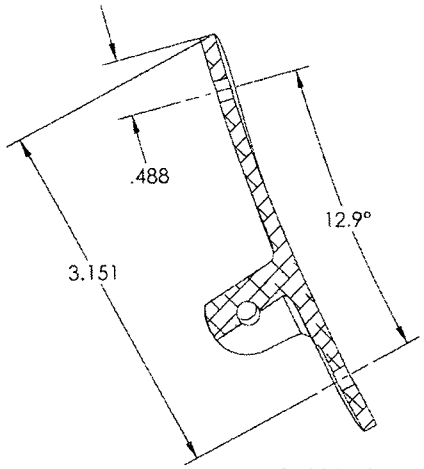


SECTION L-L

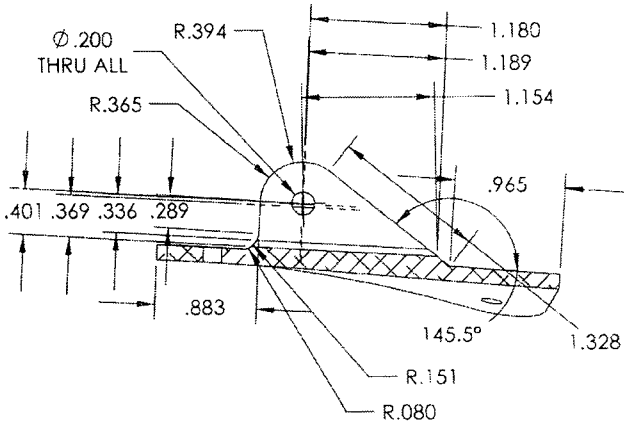




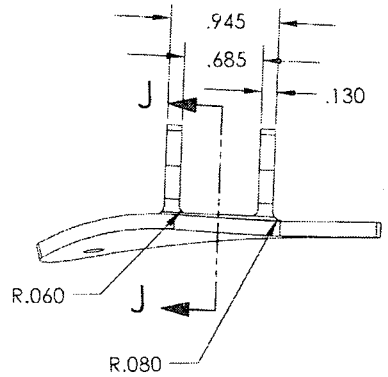
647.9312 SHOWN
647.9313 OPPOSITE



SECTION M-M



SECTION J-J



PARTS LIST

ORIGINAL DATE	
MODIFIED	04-01-10
DRAWN BY	CHECKED
R. ROMERO	P. MAYO
DRAWING APPROVAL	
IT APPROVED	
06-30-10	
CONTRACT #	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
2 PLACE DECIMALS ± .10
3 PLACE DECIMALS ± .010
ANGLES ± 3°

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

BRACKETS

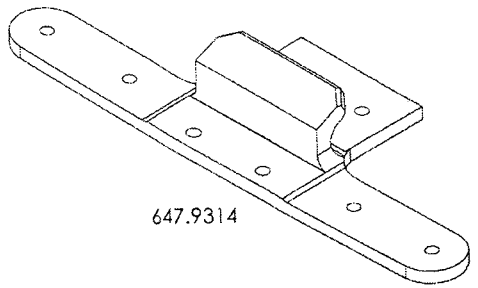
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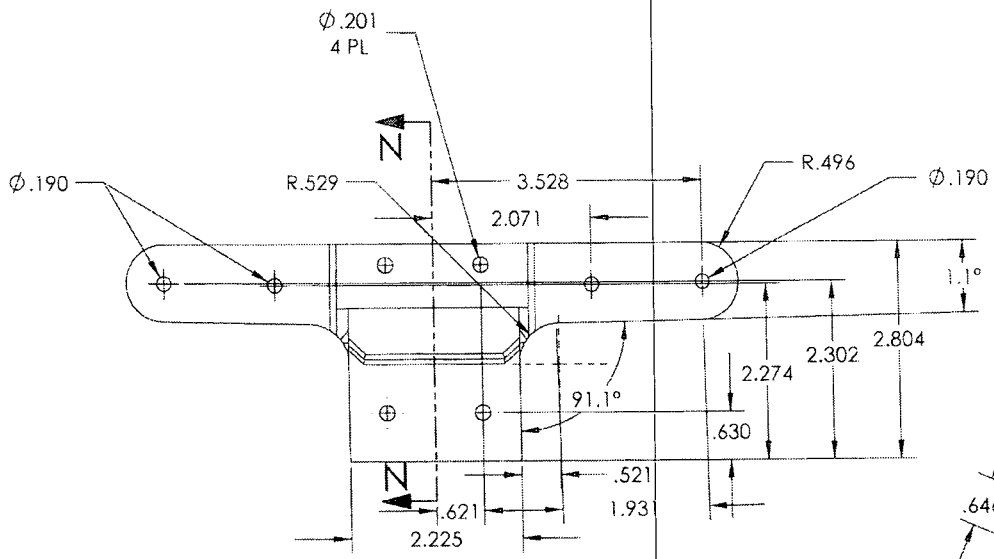
SCALE NONE SHEET 6 OF 9

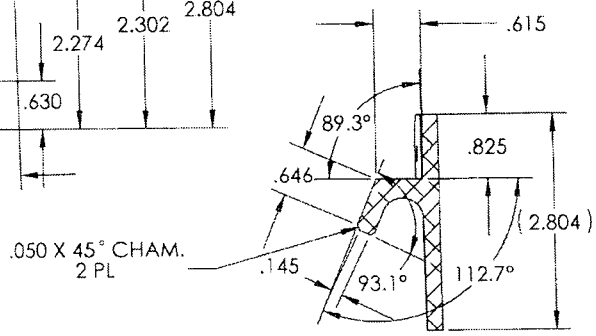
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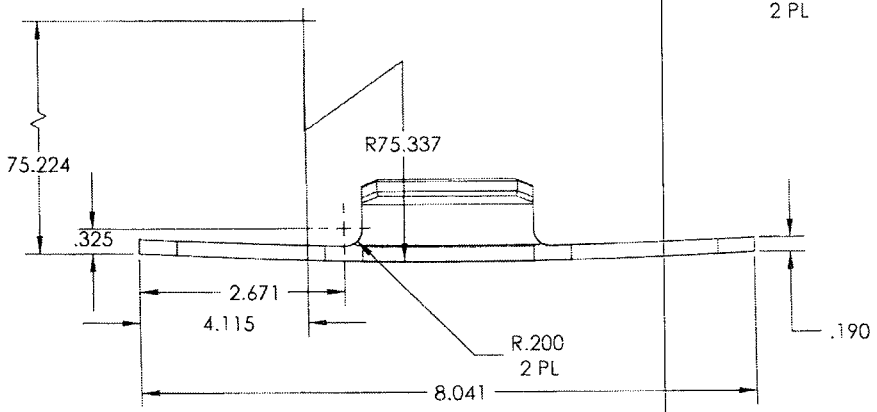
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED







SECTION N-N



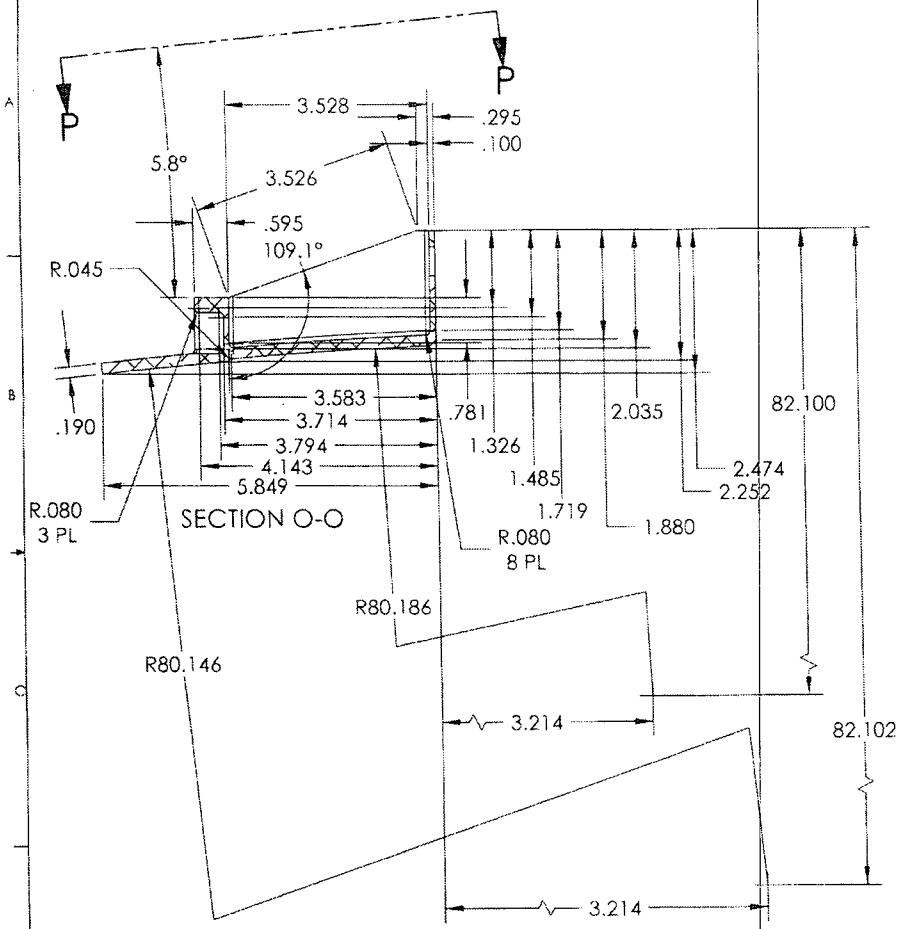
ORIGINAL DATE 04/04/24			
DRAWN BY P. ROSARIO	CHECKED P. BRAVO	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
ENGINEERING APPROVAL P. BRAVO 05-20-10		BRACKETS	
CONTRACT NO		SIZE B	CAGE CODE 07M26
		DWG NO 647.9300	REV N/C
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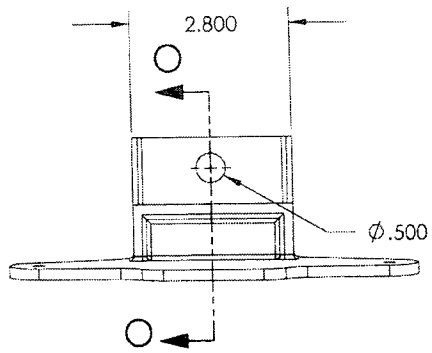
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.03 3 PLACE DECIMALS ±.010 ANGLES ± 2°

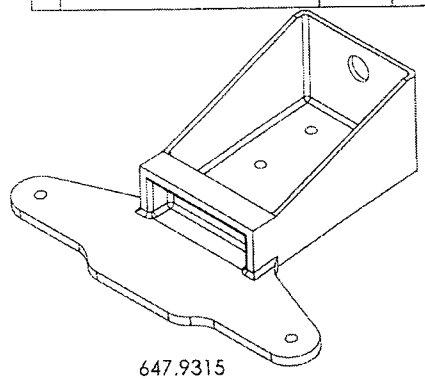
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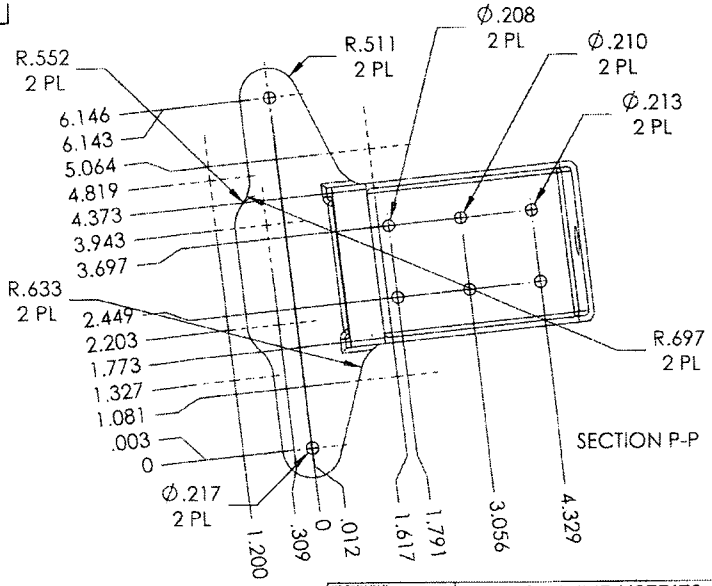
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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED









ORIGINAL DATE	06-01-10
DRAWN BY	CHECKED
E. POMATO	P. BRAVO
DRAWING APPROVAL	
P. BRAVO	
06-30-10	
CONTRACT NO.	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .03 3 PLACE DECIMALS ± .010 ANGLES ± .5°

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-5512 (760)724-5300

BRACKETS

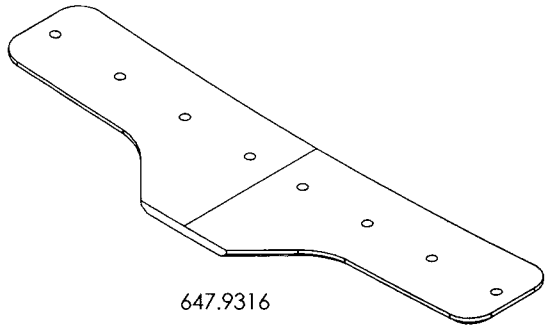
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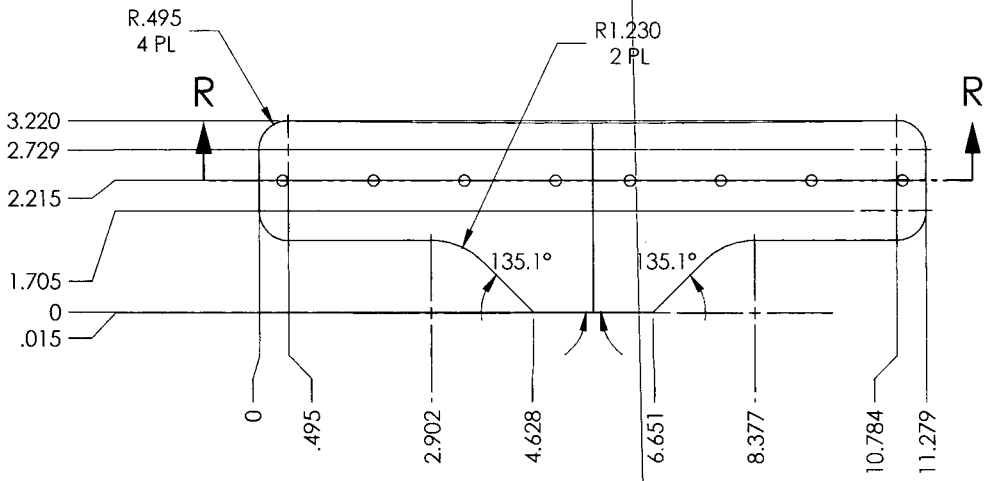
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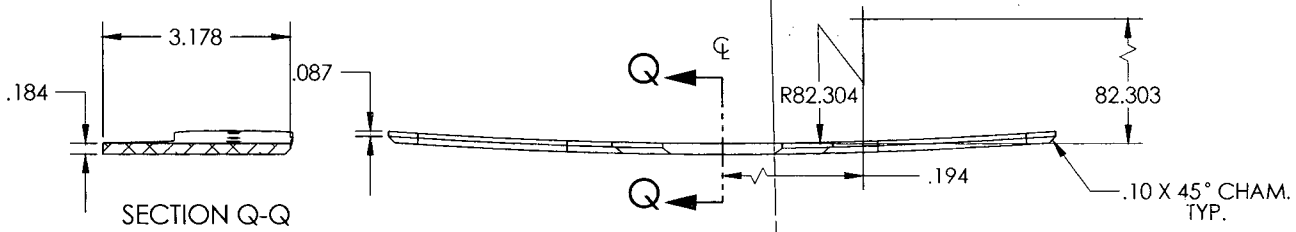
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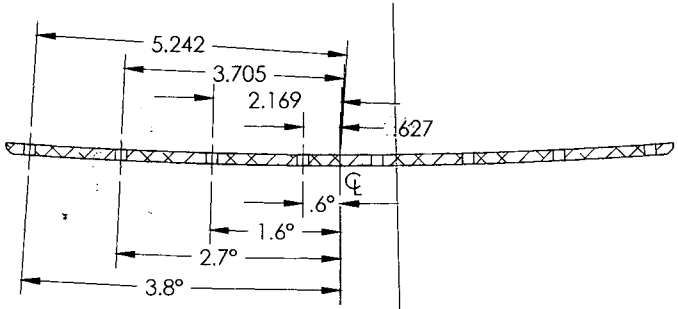
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED







SECTION Q-Q



SECTION R-R

ORIGINAL DATE (MO-DA-YR) 06-01-10		APICAL INDUSTRIES			
DRAWN BY P. ROSANO	CHECKED P. BRAVO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300			
DRAWING APPROVAL P. BRAVO 06-30-10		BRACKETS			
CONTRACT No.					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.03 3 PLACE DECIMALS ±.010 ANGLES ± .5°		SIZE B	CAGE CODE 07MZ6	DWG. NO. 647.9300	REV. N/C
		SCALE NONE	SHEET 9 OF 9		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO22325

Purchase Order Date 12/9/2013
PO Print Date 12/9/2013

Order From : VC-GLO001

ARCHER PRECISION INC.
2228 GLADWIN CRESENT
OTTAWA, ON K1B 4S6
CA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAX 613/12/09

Contact Name		**Buyer**	Chantal Lavoie
Vendor Phone	613 899 2405	**Customer POID**	
		Customer Tax #	10127-2607
Ship To Contact		**Terms**	Net 30
Ship To Phone		**Currency**	CAD
Ship Via:	FedEx PI collect	**FOB**	Destination-Collect
Ship Acct:			

Line Nbr	Reference / Vendor Part Number / Line Comments / Delivery Comments	Description/ Mfg ID	Req Date/ Taxable / Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	647.9313P AS PER DWG 647.9313 B108717	Bracket	1/31/2014 Yes 1/31/2014		4.00 Each	$190.00	$760
					Line Total:		$760
2	647.9314P AS PER DWG 647.9314 B108833	Retainer Bracket	1/31/2014 Yes 1/31/2014		4.00 Each	$252.56	$1,010
					Line Total:		$1,010
3	647.9314P AS PER DWG 647.9314 B105049	Retainer Bracket	1/31/2014 Yes 1/31/2014		6.00 Each	$252.56	$1,51

Note:

ARCHER PRECISION

2228 Gladwin Cresent
Ottawa, Ontario
K1B 4S6

Phone # 613-899-2405

Packing Slip

Date	Invoice #
1/8/2014	792

Ship To
Main Finished Goods Location Dart Aerospace 1270 Aberdeen Street Hawksbury, Ontario K6A 1K7

P.O. No.	Ship	Via	FOB	Project
22325	1/8/2014	delivered	Archer	

Qty	Item Code	Description
4	Sales	647.9313P HST (ON) on sales

ARCHER PRECISION

2228 Gladwin Cres.
Ottawa, Ont.
K1B 4S6

Telephone (613) 899-2405
Fax (613) 226-1719

Certificate of Compliance

To:
Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury Ont.
K6A 1K7

8 October 2013

Po Number	Part Number	Quantities
22325	647.9313	4

It is hereby certified that all articles mentioned above are in conformance with the requirements, specification and drawings as listed on customer purchase order number, 22325 issued by Dart Aerospace Inc.

Greg Kumpula
Quality Inspector
Archer Precision Inc.
2228 Gladwin Cress.
Ottawa, Ontario
K1B 4S6

Chantal Lavoie

From: Greg Kumpula <greg@archerprecision.ca>
Sent: Wednesday, January 15, 2014 12:37 PM
To: Chantal Lavoie
Subject: Re: missing inspection sheet
Attachments: Dart-647-9313.JPG; Capture - Dart-647-9313.JPG

Hello Chantal,

The CMM data for part 647.9313 is still in our system. I am have some adjustments to make to how the reports are being generated with the new CMM software.

These are the rough reports that I can provide you with at this time. The one shows the key feature measurements and the other shows the form data of the part. The parts are in spec.

I hope to have a combined polished report format in the very near future.

Cheers,
Greg.

----- Original Message -----
From: Chantal Lavoie
To: Greg Kumpula
Cc: Alex Mazerolle <alex@archerprecision.ca> (alex@archerprecision.ca)
Sent: Wednesday, January 15, 2014 8:44 AM
Subject: missing inspection sheet

Hi Greg,
Could you please forward me the inspection sheet for item 647.9313 from po22325. Packing slip # 792.
Thanks
Chantal

Archer Precision

ICHER

Short date 1/15/14

ne 647-9313_Rev0_SCM1_000 Part No.: *u_prtnu*

r: *u_cus* Rev.:

n *u_jobnum* u_qtynu *u_qtynu*

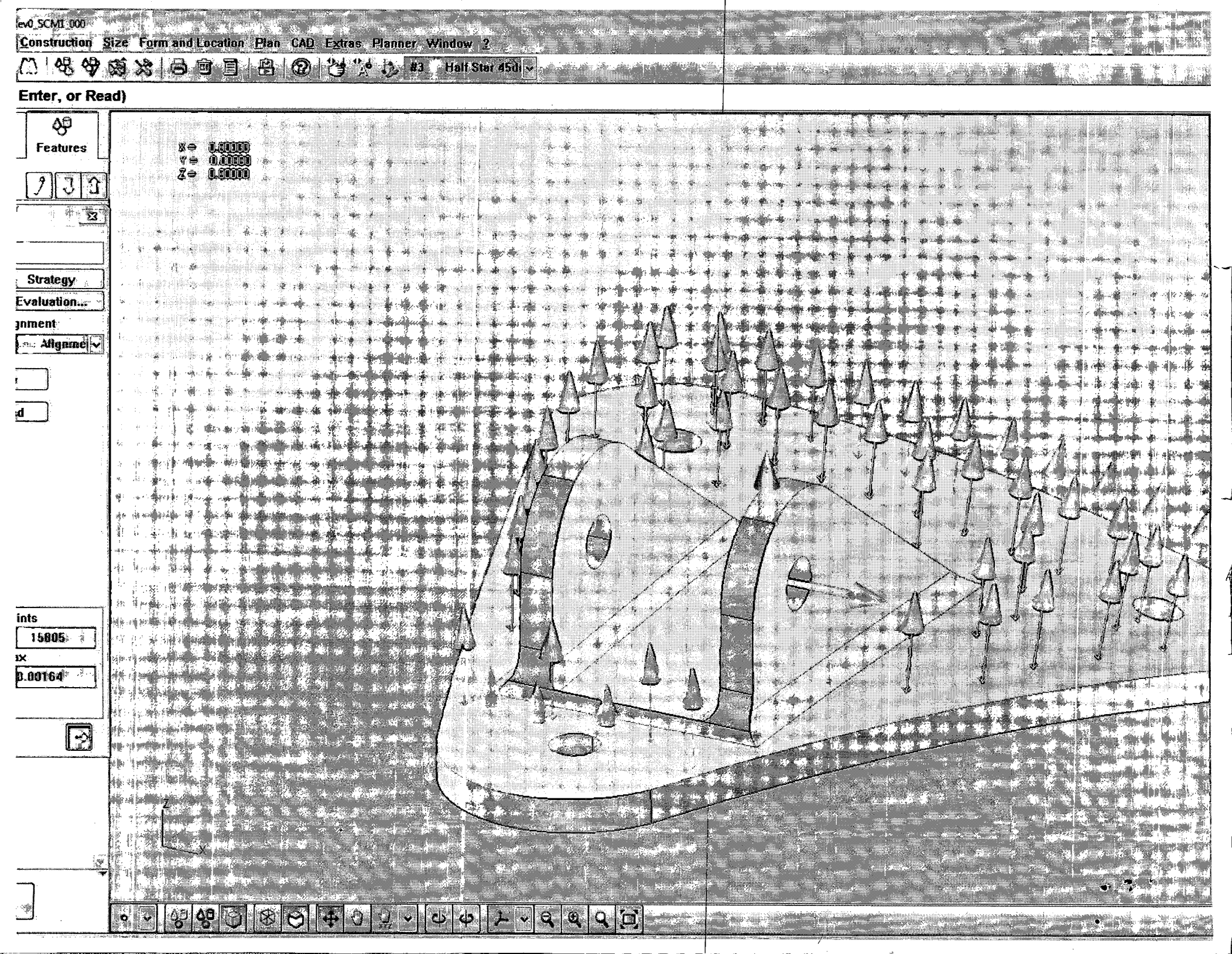
r PO.: *u_Cuspo*

BSN:

u_mtl

Incr. Smpl No.: 1

e	ID	Actual	Nominal	pos Tol	neg Tol	Diff	<--\|--
e Dia	D	0.20110	0.20000	0.00500	-0.00100	0.00110	--\|
b Inners	X	-0.68373	-0.68500	0.00500	-0.00500	0.00127	\|--
b outers	CartDist	0.94305	0.94500	0.00500	-0.00500	-0.00195	--\|
ght thickness	X	0.12871	0.13000	0.00500	-0.00500	-0.00129	--\|
eft thickness	CartDist	0.13094	0.13000	0.00197	-0.00197	0.00094	\|--


ev0_SCMI_000
Construction Size Form and Location Plan CAD Extras Planner Window ?
#3 Half Star 45d
Enter, or Read)
Features
Strategy
Evaluation...
Alignme
ints
15805
0.00164

A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 62945 Date: 21-Mar-14

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200 Fax: 613-632-1185

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200 Fax: 613-632-1185

Terms	Ship Via

Quantity	Description
1 lot	Part: ASST Rev: 10 PCS D4703-043 (0.90) BLACK ANODIZE MIL-A-8625 TYPE II CLASS 2 6 PCS 647.0310 (11.10) 6 PCS 647.7812 (8.75) 6 PCS 647.7813 (8.75) 6 PCS 647.7814 (6.85) 6 PCS 647.7815 (6.85) 4 PCS 647.9313 (8.55) 14 PCS 647.9412 (31.60) 1 PC 647.9810 (10.80) HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 PRIME MIL-P-23377J TYPE I CLASS N Job: 20140178 PO: 23281 Line:

SP14-3-21

Certificate of Conformance

A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order.

ISO 9001 : 2008 REGISTERED
ATG SALES-2010 TERMS APPLY

DATE : 21/3/14

CERTIFIED SIGNATURE : _____

RECEIVER SIGNATURE : _____

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23281

Purchase Order Date 3/10/2014
PO Print Date 3/21/2014

Order From : VC-ATG001

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name		**Buyer**	Chantal Lavoie
Vendor Phone	613-446-4544	**Customer POID**	
		Customer Tax #	10127-2607
Ship To Contact		**Terms**	Net 30
Ship To Phone		**Currency**	CAD
Ship Via:	VENDOR'S TRUCK	**FOB**	FCA – (Free Carrier)
Ship Acct:			

6	113879	647.7814 FWD BRACKET	3/25/2014 Yes 3/25/2014	6.00		$6.85 ✓	$41.

AS ABOVE

Line Total: **$41.**

7	113878	647.7815 FWD BRACKET	3/25/2014 Yes 3/25/2014	6.00		$6.85 ✓	$41.

AS ABOVE

Line Total: **$41.**

8	108717	647.9313 BRACKET	3/25/2014 Yes 3/25/2014	4.00		$8.55 ✓	$34.

AS ABOVE

SP14-3-21

Line Total: **$34.**

SP14-3-21

PO Instructions:

Note: